DOCUMENT RESUME

ED 128 887 EA 008 657

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TITLE Post-Occupancy Evaluation of the Danville Community High School.
PUB DATE Sep 76
NOTE 24p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Educational Research; *Educational Specifications; *Evaluation Methods; *Facility Case Studies; Flexible Facilities; *Models; Questionnaires; *School Design; Senior High Schools; Space Utilization; Tables (Data)

ABSTRACT

The primary purpose of this study was to develop a model for post-occupancy evaluation of a new school building and to field-test that model on a high school occupied two years before the evaluation. The evaluation model proposed to identify the general objectives of a school building project by means of a review of the educational specifications, to verify the validity of these objectives, and to identify and develop means to evaluate the attainment of these objectives. The objectives evaluated were (1) provide core spaces for 900 pupils and general instruction areas for 700 to 800 pupils, (2) allow for improved educational opportunities for pupils, (3) provide for flexible spaces, (4) utilize modern principles of design and provide a variety of sizes of instruction spaces, and (5) provide spaces that facilitate an innovative curriculum. The instruments selected to aid in the appraisal of each stated objective are described, and the findings summarized in the body of the text. Tables and other data are contained in the appendixes. (MLF)

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ED128887

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POST-OCCUPANCY EVALUATION

OF THE

DANVILLE COMMUNITY HIGH SCHOOL

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by

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September, 1976

EA 008 657

During the late 1960's the Board of School Trustees of the Danville Community School Corporation identified a need for a new high school facility for the Danville community. The result of this perceived need was the planning and construction of a new high school building which was occupied in the fall of 1973.

In the fall of 1975 the Bureau of School Services at Indiana State University proposed to conduct a post-occupancy evaluation of the Danville Community High School building. The purpose of this evaluation was to appraise the relative effectiveness of the new facility in accordance with its ability to satisfy the general objectives of the project as stated in the educational specifications. These general objectives were found to be as follows:

The new Danville Community High School facility should:

1. Provide core spaces for 900 pupils and general instruction areas for 700 to 800 pupils
2. Allow for improved educational opportunities for pupils
3. Provide for flexibility of spaces
4. Utilize modern principles of design and provide a variety of sizes of instructional spaces
5. Provide spaces that facilitate an innovative curriculum

The appropriateness and validity of each objective identified were reviewed by the superintendent of Danville Community School Corporation and the principal of Danville Community High School and were found to be consistent with their perceptions of the school corporation's initial objectives for the new high school facility.

The advisability for post-occupancy evaluation studies of school buildings has been expressed on several occasions by the Council of Educational Facility Planners and also by C. W. McGuffey in his monograph entitled MEEB: Model for the Evaluation of Educational Buildings.[1] To determine the feasibility of such a task of post-occupancy evaluation the authors initiated this project. After a thorough review of related literature, the instruments described below were ascertained to be the most suitable means for conducting this evaluation. Each instrument was selected because of its ability to aid in the overall appraisal of how effectively each stated objective was being satisfied.

Objective Number 1: Pupil Capacity

Pupil Enrollment. The first objective specified was to provide core spaces for 900 pupils and general instruction areas for from 700 to 800 pupils. One instrument used to evaluate this objective was a pupil population projection. This projection made it possible to look at the appropriateness of the number of instructional spaces that were planned for and constructed in the Danville Community High School building, in light of current and anticipated pupil enrollments. Data necessary for this pupil projection included six years of enrollment history by grades, twelve years of county resident live births, and six years of corresponding first grade enrollemnts. The result of this input was ten years of pupil projections by grade levels as noted in Table I and Appendix A.

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1. McGuffey, Carroll W., MEEB: Model for the Evaluation of Educational Buildings, Simu-School Project, Chciago, Ill.

TABLE I

Current and Projected Future Pupil Enrollment for
Danville Community Schools
by Grade Groupings, 1975-1985.

Year	1-6	7-8	9-12	Total
1975	843	344	631	1,818
1976	833	339	679	1,861
1977	822	374	690	1,886
1978	842	327	724	1,893
1979	829	305	741	1,875
1980	836	324	695	1,855
1981	845	320	699	1,864
1982	842	343	668	1,853
1983	839	357	647	1,843
1984	858	335	689	1,882
1985	882	310	701	1,893

The pupil enrollment projection for Danville Community Schools indicated that high school enrollments, grades 9-12, will peak at 741 pupils during the 1979-80 school year and will tend to level off at approximately 690 pupils for the first half of the next decade.

Room and Pupil Station Utilization. A second instrument utilized to evaluate this objective was a study of room utilization in the high school, as detailed in Appendix B. Input for this study included the number of classrooms, the room number and room use, current pupil enrollments per period for each classroom, the area in square feet of general purpose classrooms, and the number of approved pupil stations in special purpose classrooms. The result of this study was an enumeration of the total current enrollment per period, the maximum and functional capacities of the facility, the percentage of current pupil station utilization per period, and the percentage of current utilization of each classroom.

According to accepted guidelines a room utilization of 85 percent is reasonable and attainable for general purpose classrooms, and a figure of 75 percent may be expected for special purpose classrooms. Percentages which exceed these figures indicate that some rooms are being inefficiently utilized. Pupil station utilization for academic rooms should be approximately 70 percent and that for special rooms should be approximately 55 percent. These percentages serve as the basis for determining functional capacity of a school building. Percentages that are greater than these indicate crowding, while those that are less indicate an inefficient use of space.

The room and pupil station utilization study of Danville Community High School showed a maximum capacity of approximately 1,400 pupils and a functional capacity of 785 pupils. The study also showed that during the 1975-76 school year Danville Community High School operated at 67 percent room utilization and 58 percent pupil station utilization for its general purpose classrooms and 67 percent room utilization and 44 percent pupil station utilization for its special purpose classrooms.

A comparison between the functional capacity of Danville Community High School and the projected enrollment reveals that the planners of this building were realistic in their perceptions of the number of pupil stations that should be provided. Although room and pupil station utilization percentages are somewhat low, the authors feel that these utilization percentages are practical for a modern high school and result in significant flexibility in student scheduling, providing a definite potential for housing an unforeseen increase in the pupil population.

School Plant Effectiveness. A third instrument used to appraise how well Objective Number 1 was achieved was a school plant effectiveness index. This index was devised by Dr. C. W. McGuffey of the University of Georgia to evaluate the efficiency of the service that a school plant can render over its life span. McGuffey's school plant effectiveness index involves the calculation of four separate factors. The first factor, called the instructional-space efficiency factor (S_E), is simply the relationship of total instructional space to the total space in the school plant compared to an acceptable standard.

A review of the structural floor plan drawings for Danville Community High School resulted in the identification of 114,799 square feet of instructional space as compared to the total space in the school plant of 191,535 square feet. The total instructional space was found to be 60 percent of total space. A widely recognized criterion is that instructional space should be 70 percent of total space. Thus, the difference in the case of the Danville school between the accepted criterion and the actual building is 10 percent. A space efficiency factor (S_E) of .90, or 90 percent, is the result.

A second factor, called the productivity factor (P), is a measure of the school plant's contribution to producing high school graduates ready to enter either college or the world of work. This factor relates the capability of the school plant to support and generate adequate and appropriate educational programs and services for pupils served by the school. Computations for measuring the productivity factor are noted in detail under the section of this report dealing with Objective Number 2.

The third factor in McGuffey's school plant effectiveness index is called a convertibility factor (CO). This is defined as a measure of the extent to which a school plant is capable of producing changes to its instructional spaces. The computation of the convertibility factor may be noted under the section of this report dealing with Objective Number 3.

The fourth factor, called the classroom capacity factor (C_U), is a measure of the extent to which the sizes of class sections match classroom capacities. The classroom capacity factor, as computed in Appendix C to this report, was found to be .581 or 58.1 percent.

The school plant effectiveness index is expressed in the following formula:

$$SPEI = \frac{S_E + 2P + 2CO + C_U}{6}$$

Where:

S_E = the instructional-space efficiency factor, or .90 for Danville

P = the productivity factor, or .97 for Danville

CO = the convertibility factor, or .875 for Danville

C_U = the classroom capacity factor, or .581 for Danville

$$SPEI = \frac{.90 + 2(.97) + 2(.875) + .581}{6}$$

$$= .8618$$

McGuffey's school plant effectiveness index for the Danville Community High School was determined to be .8618, or 86.18 percent.

Objective Number 2: Improved Educational Opportunities

A second objective identified in the educational specifications for the Danville high school building was to improve the educational oppor-

tunities for pupils attending this new school. Three approaches were used to determine the attainment of this objective, namely, (1) an index of curriculum increase (C_I), (2) a productivity factor (P) which was referred to earlier, and (3) an index of curriculum efficiency (C_E).

Curriculum Increase. The index of curriculum increase (C_I) is simply a measure of the number of course offerings in the new school building (C_n) compared to the number of course offerings provided students in the old school (C_d) and is determined by the following formula: $C_I = \frac{C_n - C_d}{C_d} \times 100.$

Danville Community High School showed a significant increase in curriculum offerings from its old to its new curriculum. The curriculum in the old structure consisted of 70 course offerings while the total curriculum in the new facility consists of 160 course offerings. The index of curriculum increase is 128.57, that is, the number of course offerings is approximately 129 percent greater than under the old curriculum.

Productivity. The productivity factor (P), a measure of the school plant's contribution to producing high school graduates ready to enter either college or the world of work, was referred to earlier as a part of the school plant effectiveness index. The productivity of the school plant relates to its capability to generate and support adequate and appropriate educational programs and services for the students whom the school serves. The formula used to determine the productivity factor is expressed as follows:

$$P = 1 \frac{-(N_s - E_s)}{C}$$

Where:

N_s=the number of needed specialized pupil stations
E_s=the number of existing specialized pupil stations
C =the total functional pupil capacity of the school plant

The room and pupil station utilization study shown as Appendix B served as the basis for determining the number of existing special purpose pupil stations (E_s) in the new Danville high school. This number is 465. This study also provided the functional pupil capacity of the school plant (C) and was noted to be 785. A panel of curriculum experts[2] comprised of Indiana State University faculty toured the new school plant, reviewed the curricular offerings and noted deficiencies in only two areas of the new building, namely, the vocational shop and art programs. They identified the need for 21 additional specialized pupil stations (N_s) for art students in the new school.

On the basis of these data the productivity factor for the Danville high school was calculated as follows:

$$P = 1 \frac{-(486-465)}{785}$$

$$P = .9732, \text{ or } 97.32 \text{ percent}$$

Curriculum Efficiency. The curriculum efficiency index (C_E) is a measure of the level of efficiency of the present curriculum in serving the current pupil population as measured by the formula $C_E = \frac{C_n}{C_c}$. The number of course offerings in the present curriculum (C_n) was previously determined to be 160. The panel of curriculum experts estimated the course capacity of the school (C_c) to be 169. The curriculum efficiency index (C_E) was determined to be .947, or 94.7 percent.

Objective Number 3: Flexibility

The third objective identified was to provide for flexibility in the structural design of the new Danville high school building. The attainment of this objective was measured by means of McGuffey's convertibility factor,

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[2]See Appendix E

which was discussed in the section dealing with Objective Number 2. The computation of this factor involves the counting of what are referred to as convertible components and obsolete components. Convertible components are demountable/relocatable heating and air conditioning systems, relocatable casework and cabinets, relocatable modular ceilings, a modular structure, roofing/insulation, and acoustical flooring. Obsolete components are similarly defined as heating and air conditioning, lighting, acoustical ceiling, casework and cabinets, and acoustical flooring. These numbers were then placed into the convertibility formula:

$$\text{Convertibility} = \frac{\text{No. of convertible components}}{8} - \frac{\text{No. of obsolete components}}{5}$$

The result of this calculation is a measure of the school's flexibility.

The determination as to whether the defined building components were convertible or obsolete was made by the project architect who was responsible for the design of the facility. It was his conclusion that seven of the eight components were convertible and none were obsolete. It was determined that roofing/insulation was not convertible. The resulting convertibility factor was .875, or 87.5 percent. This number depicts a building which has significant structural flexibility.

Objective Number 4: Variety of Designed Spaces

The fourth objective enumerated for the new Danville Community High School was to provide modern principles of design and for a variety of sizes of instructional spaces. The attainment of this objective was determined by the use of an index of space variety. This index (V_S) entails the counting of the number of small group areas (N_S), the number of large

group areas (N_L), and the number of regular classroom areas (N_R). These data are then substituted into the space variety formula:

$$V_S = \frac{N_S + N_L}{N_S + N_L + N_R}$$

The result of this computation is a measure of the variety in sizes of educational spaces in the new high school facility.

The calculation of this index yeilded a space variety factor of .258 or 25.8 percent. Although seemingly small, an index of this size does indicate a facility which has a significant variety of instructional spaces compared to the average high school facility. Over one-fourth of the instructional spaces in the new Danville high school can accommodate large or small groups of pupils.

Objective Number 5: Facilitate an Innovative Curriculum

The final major objective was to provide spaces in the new school that would facilitate an innovative curriculum. The attainment of this objective was determined by means of a questionnaire that was administered to 177 students, 27 faculty, and 4 administrators in the school. The questionnaire was designed to indicate whether this new facility added or detracted from the curricular program. A copy of the questionnaire is included as Appendix D to this report.

Respondents were asked to indicate the degree, on a five-point scale, to which they thought the school building met the standard noted in each of the 30 statements listed in the questionnaire. These statements sought to elicit responses concerning the aesthetics of the building; lighting and

sound control; safety, security and the thermal environment; and spaciousness and function. Mean responses for each group to each area of concern are noted in Table II.

Table II

Mean Responses to Questionnaire Items by Areas of Concern and for Total Groups

Group	Aesthetics	Lighting and Noise	Safety, Security and Temperature	Spaciousness and Function	Total
Senior (S)	3.345	3.369	3.488	3.382	3.383
Junior (J)	3.494	3.214	3.402	3.364	3.369
Sophomore (So)	3.603	3.448	3.552	3.588	3.564
Freshman (F)	2.967	3.206	3.152	2.966	3.024
F, So, & J	3.330	3.284	3.355	3.284	3.300
F, So, J, & S	3.337	3.324	3.418	3.331	3.340
Faculty Who Taught in Old Building (F_o)	2.440	2.778	2.593	2.778	2.693
Faculty Who Did Not Teach in Old Building (F_n)	2.778	3.156	3.093	3.066	3.026
Administration (A)	2.500	2.700	2.750	2.609	2.617
Totals (N=208)	3.234	3.274	3.341	3.270	3.271

The data in Table II shows some differences between particular groups on their general appraisal of the Danville facility. The freshmen students generally responded lower than the other three grade groups to all aspects of the questionnaire. Somewhat surprisingly, the faculty who had taught in the old Danville high school facility had a lower appraisal of the new facility than did faculty members who were new to the school. Even more

surprisingly, the lowest appraisal of all was recorded by the administration. However, total mean responses for all items on the questionnaire ranged from a low of 2.617 for administrators to a high of 3.564 for sophomore students. This would indicate that administrators as a group appraised the facility as meeting all standards in the questionnaire items from a slight (2.0) to a moderate (3.0) degree, while sophomore students as a group evaluated all items between a moderate (3.0) to a high (4.0) degree.

The mean response for all 208 respondents for all 30 questions was 3.271 — above moderate degree (3.0) and below high degree (4.0). The mean response for all respondents to all items in the questionnaire concerning safety, security and thermal environment was 3.341 and was the highest average response among the four groups of questions noted in Table II. However, mean responses to the three other groups were not significantly different from that for safety and security, with the lowest being to aesthetics at 3.234.

On the basis of these responses it may be generally concluded that students, faculty and administrators occupying the new school are reasonably satisfied, from a moderate to a high degree, with the facility as an environment for learning. They are generally pleased to a moderate or higher degree with the aesthetics, lighting, safety and security, and function of the building.

SUMMARY AND CONCLUSIONS

The primary purpose of this study was to develop a model for post-occupancy evaluation of a new school building and to field-test that model. The evaluation model developed by the authors proposed to identify the general objectives of a school building project by means of a review of the written educational specifications, to verify the validity of these objectives with those persons who were primarily responsible for planning the building, and to identify and develop means to evaluate the attainment of these objectives.

In the fall of 1975 the Danville Community Schools agreed to allow the authors to field-test the proposed post-occupancy evaluation model by applying the model to the Danville Community High School. Five general objectives for this school building were identified in the review of the educational specifications and were validated by the administrators responsible for planning this facility. A brief summary of the findings and conclusions with respect to each of these objectives is enumerated below:

Objective Number 1: To provide core spaces for 900 pupils and general instructional spaces for 700 to 800 pupils.

Findings: The functional pupil capacity of the new building is 785. A total of 1,400 pupil stations are provided in this school. Current pupil enrollments total 631 students and projected pupil enrollments indicate a peak of 741 students in 1979. Current room utilization is 67 percent for both general purpose and special purpose rooms. Pupil station utilization is 58 percent for general purpose spaces and 44 percent for special purpose spaces. One special purpose space has reached and exceeded functional utilization and capacity. This is the space dedicated for Art instruction.

The school plant effectiveness index of this building is 86.16 percent as measured by the following:

(1) the instructional space efficiency factor is 90 percent
(2) the productivity factor is 97 percent
(3) the convertibility factor is 87.5 percent, and
(4) the classroom capacity factor is 58.1 percent

Conclusions: The new Danville high school building has a functional capacity greater than current enrollments as noted by the classroom capactiy factor of 58.1 percent and the room and pupil station utilization data previously stated. These percentages will increase as enrollments continue to increase.

The planners did achieve Objective Number 1 by constructing a building with a functional capacity of 785 students. They underestimated the student demand for Art instruction.

Objective Number 2: To allow for improved educational opportunities for pupils.

Findings: The curricular offerings in the new building increased by 90 courses over those offered in the old building, an increase of 129 percent. The curriculum efficiency index in the new building is 94.7 percent and the productivity factor is 97.32 percent. A total of 21 additional pupil stations for Art instruction is needed in the new building.

Conclusions: The facility has significantly provided for improved educational opportunities for pupils. The only restriction identified was in the area dedicated for Art instruction.

Objective Number 3: To provide for flexibility of spaces.

Findings: The convertibility factor of structural components of the new building was calculated to be 87.5 percent. There are no obsolete components and only one (roofing/insulation) nonconvertible component.

Conclusion: This building is very flexible and will allow for significant convertibility of most spaces.

Objective Number 4: To utilize modern principles of design and to provide a variety of sizes of instructional spaces.

Findings: The index of space variety was calculated to be 15.8 percent. This index indicates that over one-fourth of the spaces in this building deviate from the norm. The aesthetics of the new building were evaluated by the occupants at 3.234 on a five-point scale, which indicates that current occupants believe that the design goals have been achieved from a moderate to high degree.

Conclusions: A variety of spaces have been constructed in the new Danville high school and modern principles of design were utilized.

Objective Number 5: To provide spaces that facilitate an innovative curriculum.

Findings: The current occupants evaluated the building as facilitating the educational program from a medium to high degree. Numerically they evaluated the facility 3.271 on a five-point scale.

Conclusion: The occupants generally agree that the new building facilitites the curricular program.

Appendix A

PUPIL POPULATION PROJECTION

School Year	1	2	3	4	5	6	7	8	9	10	11	12	Total
75-76	134	121	140	108	169	171	162	182	187	159	157	128	1,818
76-77	145	129	127	135	121	176	180	169	192	185	152	150	1,861
77-78	146	140	136	123	151	126	186	188	178	190	177	145	1,886
78-79	127	141	147	132	138	157	133	194	198	176	181	169	1,893
79-80	126	122	148	142	148	143	166	139	204	196	168	173	1,875
80-81	131	121	128	143	159	154	151	173	196	202	187	160	1,855
81-82	143	126	127	124	160	165	162	158	182	145	193	179	1,864
82-83	144	138	132	123	139	166	174	169	166	180	138	184	1,853
83-84	145	139	145	128	138	144	175	182	178	165	172	132	1,843
84-85	146	140	146	140	143	143	152	183	192	176	157	164	1,882
85-86	147	141	147	141	157	149	151	159	193	190	168	150	1,893

Appendix B

CAPACITY AND ENROLLMENT OF GENERAL PURPOSE CLASSROOMS
OF DANVILLE COMMUNITY HIGH SCHOOL

Room No.	Room Use	Number of Approved Pupil Stations	Number of Pupil Stations Occupied/Period 1	2	3	4	5	6	Number of Periods in Use	Percentage of Room Utilization	Total Daily Occupancy Approved/Actual		Total Daily Actual Occupancy as a Percentage of Total Daily Occupancy
204	Health	26	26	27	0	0	35	0	3	50	156	88	56
205	Social St.	26	27	0	24	27	29	26	5	83	156	133	85
206	Social St.	30	0	19	0	30	29	24	4	66	180	102	56
207	Social St.	26	0	12	16	27	32	25	5	83	156	112	71
209	English	26	24	26	0	21	23	21	5	83	156	115	73
210	English	30	12	0	0	0	0	8	2	33	180	20	11
2q1	English	26	0	17	29	30	26	0	4	66	156	102	65
212	English	26	0	20	21	0	24	23	4	66	156	88	56
213	English	26	21	0	30	17	26	22	5	83	156	116	74
215	English	30	0	20	0	22	25	19	4	66	180	86	47
216	English	26	26	0	18	24	0	17	4	66	156	85	54
217	Social St.	26	29	24	28	26	0	24	5	83	156	131	83
300	Math	26	23	25	22	8	0	0	4	66	156	78	50
301	Math	26	0	21	25	21	25	21	5	83	156	113	72
302	Math	30	0	0	0	0	0	0	0	0	180	0	0
303	Math	26	25	16	0	23	26	22	5	83	156	112	71
304	Math	26	29	11	26	23	30	0	5	83	156	119	76
	Total	458	242	238	239	299	330	252		67	2,748	1,600	58
Percentage of Pupil Station Utilization/Period			52	51	52	65	72	55					
Functional Capacity		320											

Appendix B (cont.)

CAPACITY AND ENROLLMENT OF SPECIAL PURPOSE CLASSROOMS
OF DANVILLE COMMUNITY HIGH SCHOOL

Room No.	Room Use	Number of Approved Pupil Stations	Number of Pupil Stations Occupied/Period 1	2	3	4	5	6	Number of Periods in Use	Percentage of Room Utilization	Total Daily Occupancy Approved/Actual		Total Daily Actual Occupancy as a Percentage of Total Daily Occupancy
200	Lecture Room	62	0	0	0	0	0	0	0	0	372	0	0
201	Foreign Lang.	25	14	23	15	29	28	0	5	83	150	109	72
202	For. Lang. Lab	30	0	0	0	0	0	0	0	0	180	0	0
203	Foreign Lang.	25	10	11	16	0	19	16	5	83	150	72	47
214	Special Ed.	20	8	12	11	6	13	0	5	83	120	50	41
308	Science	25	0	9	20	17	13	17	5	83	150	76	50
309	Science	25	17	24	15	18	0	29	5	83	150	113	75
312	Science	25	27	28	26	0	27	14	5	83	150	122	81
313	Science	25	26	25	30	15	0	0	4	66	150	96	63
400	Business	20	19	17	19	17	24	7	6	100	120	103	85
401	Business	25	25	27	29	21	0	27	5	83	150	129	85
403	Business	30	23	25	28	22	0	27	5	83	180	125	69
404	Business	28	24	20	0	0	0	26	3	50	168	70	41
611	Band	99	81	0	0	0	0	0	1	16	594	81	13
614	Choir	80	0	54	72	25	0	0	3	50	480	151	31
623	Art	24	39	19	42	40	23	42	6	100	144	205	142
702	Home Ec.	24	0	0	0	20	18	23	3	50	144	61	42
703	Home Ec.	25	0	14	0	33	0	0	2	33	150	47	31
704	Home Ec.	24	6	0	25	29	17	11	5	83	144	88	61
708	Ind. Arts	54	33	17	21	0	20	39	5	83	324	130	40
709	Ind. Arts	52	17	19	11	20	20	10	6	100	312	97	31
824	PE & Swim	99	43	67	13	0	101	113	5	83	594	56	56
	Total	846	412	411	403	312	323	401		67	5,076	2,262	44
	Percentage of Pupil Station Utilization Per Period		48	48	47	36	38	47					
	Functional Capacity	465											

Appendix C

COMPARATIVE DATA ON INSTRUCTIONAL ROOM CAPACITIES AND SIZE OF CLASS SECTIONS

Size and Number of Class Sections

Capacity of Instructional Rooms	10 or under	11 - 20	21 - 30	31 - 40	41 or above
10 and under					
11 - 20	4	7	1		
21-30	63	35	81	4	3
31 - 40					
40 or above	17	8	2	2	7
Makeshift Arrangements					

$$C_U = \frac{\text{Number of Class Sections Inside Heavy Lines}}{\text{Total Number of Class Sections}} = \frac{136}{234} = .581$$

Appendix D

EVALUATION QUESTIONNAIRE TO SURVEY OPINIONS
OF STUDENTS, TEACHERS, AND ADMINISTRATORS

Check the appropriate information:

Teacher _____ Student _____ Administrator _____

If teacher, did you teach in the old Danville High School?

Yes _____ No _____

If student, what class are you now in?

Freshman _____ Sophomore _____ Junior _____ Senior _____

Please indicate your response to each of the following items by circling the appropriate number which best represents the degree to which you think your school building meets each standard that is stated. The five points on the scale are interpreted as follows:

5. Extremely high degree
4. High degree
3. Moderate degree
2. Slight degree
1. No degree

1.	This building has an attractive interior.	5 4 3 2 1
2.	This building is clean and sanitary.	5 4 3 2 1
3.	This building provides adequately for the educational program.	5 4 3 2 1
4.	This building stimulates teacher cooperation.	5 4 3 2 1
5.	The heating and air conditioning systems provide for a comfortable environment.	5 4 3 2 1
6.	This building contributes to a student's feeling of belonging.	5 4 3 2 1
7.	Classroom lighting is adequate.	5 4 3 2 1
8.	This building enhances learning activities.	5 4 3 2 1

9.	There is adequate space for all instructional programs.	5 4 3 2 1
10.	This building meets the needs of both students and faculty.	5 4 3 2 1
11.	This building encourages better pupil attitudes.	5 4 3 2 1
12.	This building is a pleasant place to work.	5 4 3 2 1
13.	This building increases the involvement of pupils with each other.	5 4 3 2 1
14.	This building conveys a bright and cheery atmosphere.	5 4 3 2 1
15.	The space in this building is used efficiently.	5 4 3 2 1
16.	Students have plenty of space to work in their classrooms.	5 4 3 2 1
17.	Students feel safe and secure in this building.	5 4 3 2 1
18.	Little confusion is caused in classes as students move throughout the building.	5 4 3 2 1
19.	Students can hear clearly in their classrooms.	5 4 3 2 1
20.	This building improves student feelings about school.	5 4 3 2 1
21.	The colors in this building are pleasant.	5 4 3 2 1
22.	This building is quiet.	5 4 3 2 1
23.	The quality of the facilities available contribute to the success experienced in the school.	5 4 3 2 1
24.	It is easy to rearrange spaces in all classrooms.	5 4 3 2 1
25.	This building conveys a comfortable feeling.	5 4 3 2 1
26.	Writing on the chalkboards is easy for students to see.	5 4 3 2 1
27.	There is adequate space for students to socialize.	5 4 3 2 1
28.	The library is conveniently located.	5 4 3 2 1
29.	The large open areas provide a comfortable atmosphere.	5 4 3 2 1
30.	Student work and study areas are conveniently arranged for easy use and adequate teacher control.	5 4 3 2 1

Appendix E

Sincere appreciation is extended to the following people who gave of themselves to comprise the panel of experts that examined Danville High School:

Chris Buethe; Ed.D., Chairman, Department of Secondary Education and Professor of Education, Indiana State University.

David T. Turney; EdD., Dean, School of Education and Professor of Education, Indiana State University

Tom C. Venable; Ph.D., Chairman, Assistant Dean for Graduate Studies, School of Education and Professor of Education, Indiana State University.

Robert O. Williams; Ph.D., Associate Professor of Education, Indiana State University.